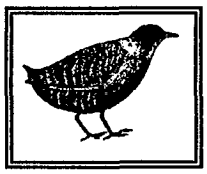
CALFED Vision for the California Black Rail



The CALFED vision for the California black rail (*Laterallus jamaicensis coturniculus*) is a restored, self-sustaining population in the Delta and Suisun Marsh and Bay ecological zones. CALFED envisions that actions taken in the San Francisco Bay Ecological Zone could contribute to the restoration of the black rail. The CALFED vision is that the restoration of suitable fresh emergent and saline emergent wetlands in the Bay-Delta combined with higher elevation refugia for periods of high water will restore the ecological health of the Bay-Delta system and restore high quality habitats for listed fish and wildlife species, in particular the black rail. CALFED also envisions protection and restoration of marsh habitat from the deleterious effects of human activities without sacrificing commercial and recreational benefits.

Background

The California black rail is a rarely seen, yearlong resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay area and Sacramento - San Joaquin Delta. Marshland habitat has been largely destroyed or modified in California since the mid-1800s and this decline in emergent wetland habitat has reduced the black rail population densities throughout its range. The degradation of this habitat by human-caused actions may be reversed through a comprehensive program to restore or reactivate the ecological processes, functions, and habitat elements on a systematic basis. While the black rail's range extends into three other ecological zones the primary focus for the restoration of habitat and ecological functions associated with this vision is the Delta and Suisun Marsh ecological units. A secondary focus is on the San Francisco Bay. The California black rail is listed as threatened by the State of California.

Ecological Health within Ecological Zones	
American River Basin	F
Yolo Basin	F
Eastside Delta Tributaries	F
Sacramento-San Joaquin Delta	D
Suisun Marsh/ San Francisco Bay	D

Identification and Status of Key Habitats, Ecosystem Processes, and Stressors

The California black rail is currently only found in any numbers within the Suisun Marsh/San Francisco Bay and the Sacramento-San Joaquin Delta. Key habitats include: tidal perennial aquatic, nontidal perennial aquatic, dead-end sloughs, open-ended sloughs, seasonal wetland and aquatic, saline emergent wetland, fresh emergent wetland, and midchannel islands and shoals. Many tidal habitats including those that support pickleweed, bulrushes, and saltgrass are critical habitat types that need to be protected for this species and are available at only a small percentage of their historic proportions. Additionally adjacent upper wetland or upland habitat with aquatic vegetation are of equal importance to provide nesting and escape cover during high tides and flood waters. These habitats continue to be threatened by sedimentation, water diversions, recreational activities, and land use practices.

The three important ecological processes that affect the California black rail include 1) natural sediment supply, 2) tides, and 3) vegetation succession. All of these ecological processes are equally

important and interrelated. Black rail habitat is directly influenced by the sediment supply from the upstream portion of the Delta and the tidal influences from the Bay. As sediment is deposited in tidal marshes the elevation of the marsh is changed in such a way that it will no longer support the tidal action and tidal marsh plants. This succession of important vegetation will depend on the interaction of compatible tides and sediment supply regimes. Water quality sufficient to support the invertebrates and vegetation required to support black rails is another key process.

A number of other stressors continue to affect the success of the black rail. These include smaller water management diversions, human disturbance, change in land use, contaminants, and predation by exotic (non-native) species.

Recovery and Restoration Goals for the California Black Rail

The CALFED vision for the California black rail is the restoration of populations within the Delta to a healthy state. The goals that have been set to increase habitat for the black rail will also help to support sustainable production and survival of native and other desirable estuarine and anadromous fish in the estuary.

Ecosystem Processes

The ecosystem restoration for black rail will include a wide variety of efforts, many of which are being implemented for other ecological purposes or other species, particularly fisheries. By restoring the natural tidal action of aquatic habitats the ecosystems processes and functions will take over to restore the tidal action which in turn will improve the sediment supply, and vegetation succession.

Habitat Restoration

For efforts outside of the Delta the benefit of restoration of natural tidal action to aquatic and wetland habitats within the Suisun Marsh and San Francisco Bay ecological zones will have benefit to various recreational and commercial fishes and fisheries. To preserve the remaining populations of black rail the remaining tidal slough habitats supporting pickleweed, bulrushes, and saltgrass must be protected. Restoring connectivity and enhancing these tidal slough and adjacent upland habitats will assist in the conservation of the black rail and the maintenance of an equal amount of adjacent upper wetland or upland habitat with aquatic vegetation to provide cover during high tides and flood waters.

The singular most important hazardous conditions to the black rail's existence in salt marshes appears to be the higher water elevations associated with the highest tides and high outflow conditions. These conditions destroy nests and temporarily force rails to leave the marsh in search of sufficient cover. This transitional habitat between the marsh and upland, however, has been separated by an extensive system of levees within the Delta which is maintained in a state devoid of vegetation. This lack of sufficient cover subjects black rails to predation, frequently by exotic species. Environmentally safe removal of these types of predators and suitable adjacent upland habitat will reduce loss of black rails.

Stressors

Inadequate connectivity between wetland and upland habitat has impaired or reduced the ability of the black rail to seek cover during high tides. The connection of these habitats will help to eliminate

predation and limit. Programs to manage smaller water management diversions, human disturbance, change in land use, and contaminants will improve black rail habitat, reproductive potential and recruitment.

Linkage to Other Restoration Programs

Programs that would benefit the California black rail include many programs designed to benefit broader groups of fish and wildlife that use or depend on wetlands, sloughs, or adjacent aquatic systems in the Bay-Delta. Some of these programs are: the Bay Area Wetlands Planning Group, Coastal Conservancy, Delta Native Fishes Recovery Team, San Francisco Bay National Wildlife Refuge, Tidal Wetlands Recovery Plan and the U.S. Fish and Wildlife Service San Francisco Bay Program. The Ecosystem Wetland Goals Project is currently in the process of setting restoration goals for the Suisun and San Francisco Bay areas. CALFED will use those goals to guide the final selection of targets for the Ecosystem Restoration Program Plan.

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